

# Sandia on target for first Mk21 Fuze flight test in 2018



LIGHT-INITIATED HIGH EXPLOSIVE test shot of the Mk21 reentry vehicle at Sandia/New Mexico.

By Michael Padilla

Sandia’s Mk21 Fuze Program is on track to deliver upcoming key program milestones, including launching flight test unit 1 (FTU1), finalizing the prototype design review, and conducting the preliminary Department of Defense independent peer review.

### Preparing for the first flight test

According to Elaine Yang, who oversees the systems work for Sandia, the Mk21 Fuze team is excited to execute the program’s first flight test, scheduled for later this year.

“The objective is to show functional compatibility between the replacement arming and fuzing assembly, reentry vehicle, and Minuteman III missile in an operational flight in the Pacific,” says Elaine. She notes that the Mk21 Fuze Systems team in California has been focusing on designing, fabricating, and testing the vehicle to ensure its readiness for flight.

### Testing the ground test unit

The ground test unit (GTU1) was built to be almost identical to FTU1. GTU1 was then subjected to rigorous mechanical and electrical testing. The mechanical tests, across transportation, preflight, powered flight, and reentry environments, were conducted at Sandia/

(Continued on page 3)

SHAUNA ADAMS

CHRISTOPHER COLLINS

MARK MARTIN

Five Sandians  
honored with 2018  
Black Engineer  
of the Year awards

DAVID SAMUEL

IMANI ADAMS

# A greater chance to thrive

## 5 percent pricing preference gives bidding advantage to NM small businesses

By Michael J. Baker

Offering developing New Mexico small businesses additional opportunities to compete and grow, Sandia has launched a 5 percent pricing preference for qualified companies.

“Sometimes it’s challenging for small New Mexico businesses to compete with out-of-state companies or larger businesses,” Labs Director Steve Younger says. “We’re committed to New Mexico, and we want to give our small businesses a hand.”

The preference could apply to about \$100 million in subcontract awards for New Mexico small businesses to compete for during the first year of the program, says Delfinia Salazar, senior manager of the Labs’ Supply Chain Integration department. The subcontracts would represent a wide range of services, including research and development, customized equipment, professional services, commercial items, and information technology.



JUDY ORTIZ RIZEK IS OWNER AND PRESIDENT of The Circuit Shop in Albuquerque, a small, woman-owned business that has contracted with Sandia. Businesses such as hers could qualify for the 5 percent preference under Sandia’s recently launched plan. (Photo by Randy Montoya)

“It’s our goal as we continue to establish the plan that it will increase our use of small businesses and support jobs in New Mexico,” Del says. “We’ll know more about the overall impact for New Mexico businesses after a few years of the program.”

Sandia will apply the 5 percent preference while evaluating subcontract awards worth \$150,000 to \$5 million that include a bid from a New Mexico small business. “Most competitive acquisitions are in that range,” Del says, “and it allows us to give small businesses the best chance to be competitive.”

### Goal: Increase local small business contracts

To qualify as a New Mexico small business, a company must meet North America Industry Classification System Code and associated Small Business Administration size standards, be registered and licensed in New Mexico, have an operating location in state, and have 50 percent of its employees be state residents, among other requirements.

“Our intent was to develop specific qualifications to ensure we’re offering the pricing preference to small businesses that truly are operating in New Mexico, employing New Mexico labor and contributing to New Mexico,” Del says. When a qualified New Mexico small business offers a bid, an internal analysis will add 5 percent to bids of other businesses not qualifying as a New Mexico small business. In the event of a tie, Sandia reserves the right to award the New Mexico small business.

Small businesses will be notified of the program at the beginning of the bidding process, when they receive requests for quotes for services and goods, Del says.

The effort is part of Sandia’s goal of increasing the small-business percentage of the roughly \$1.1 billion Sandia annually spends on contracted suppliers of goods and services. In fiscal year 2017, small businesses received 53 percent, or \$581 million, of those dollars. About \$270 million went to New Mexico small businesses. Sandia’s goal is to increase the percentage spent on all small businesses to 60 percent in the next five years. “We want small businesses statewide to have these opportunities,” Steve says.

He says Sandia plans to work closely with state and local entities and universities that are concerned about small-business development. “In building these collaborations, we want to leverage what they are good at with what we’re good at so that small businesses throughout New Mexico can grow and provide jobs for state residents,” he says.

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# That’s that

In lieu of our next “regular” edition of the *Lab News*, we will be publishing our annual *Labs Accomplishments* issue. The regular *Lab News* will return April 13.

I’ve been involved with the production of *Labs Accomplishments* since the very first year I started at Sandia back in 1995 and it’s always been one of my favorite recurring projects. In my earliest days at Sandia, the *Labs Accomplishments* issue, more than any other single factor, really brought home for me the vast scope and incredible depth of what we do here on behalf of the nation.

I did a little digging and learned that the *Lab News* has been publishing the *Labs Accomplishments* since 1981. In its first incarnation, it was called *Technical Accomplishments*, with a strict focus on the Labs’ unclassified mission work. Beginning in 1988 and continuing today, the scope of the publication was expanded to include accomplishments from across all of Sandia’s organizations. Thus, *Technical Accomplishments* became *Labs Accomplishments*, a recognition that success in our mission work is intimately tied to what we now call mission services; that is, the more effective we are at running the business of the laboratory, the more effectively we can deliver on our mission.

In 1981, then-*Lab News* editor John Shunny spelled out the initial vision for *Technical Accomplishments*:

*With this special supplement, distributed only within the Labs, LAB NEWS introduces a new feature which we plan to carry with the advent of each new year. Technical Accomplishments 1980 has a two-fold objective: to document in one place, unclassified, the principal technical accomplishments of the Labs for the year just past; secondly, to inform Sandians of what the other Sandian is doing. In a laboratory with interests as far ranging as those of Sandia, many if not most of us have scant knowledge of what's going on beyond our own organization.*

I’d like to think that over the years since 1981, our awareness of what our colleagues in other organizations are doing is perhaps not as stove-piped as it was in 1981. And I think that maybe the annual publication of *Labs Accomplishments* has something to do with that. But quibbles aside, if you were to ask me today why we continue to produce the *Labs Accomplishment* issue, my answer would be right in line with what John wrote 37 years ago.

The 2018 edition of *Labs Accomplishments* will be distributed in *Lab News* racks across the campus beginning around March 29. I hope you get a chance to pick up a copy, remembering as you look through it that reflects only the work we can discuss publicly. Much of our best work may not see the light of day for years, if ever.

\* \* \*

A final word and personal note: After 23 years at the Labs, 12 years as editor of this publication, and 10 years as the writer of this column, I am saying goodbye to Sandia. Thanks for reading my missives over the years. I’ve always tried to write these commentaries as though I am speaking to each of you one-on-one, as a friend. And I’ve loved hearing from you when you share your thoughts about something I’ve written. I’ve been given a lot of latitude by my management to write about whatever has captured my fancy at any given moment in time and I appreciate that. It’s been a rare privilege, one I’ve never taken for granted and one I won’t forget any time soon.

I was watching a classic John Wayne movie called *Red River* the other day when a line near the end of the film jumped out at me. In the scene, Wayne’s young protégé has just completed a thousand-mile cattle drive from south Texas to Abilene, Kansas. The cattle broker in Abilene says to the young man: “There’s three times in a man’s life when he has a right to yell at the moon: when he marries, when his children come, and when he finishes a job he had to be crazy to start.” I think in this context, “yelling at the moon” is a good thing, an expression of unrestrained joy.

Well, I’ve been married and had my children, and now I’ve finished this crazy, wonderful, rewarding, frustrating, challenging, and incredible job. If you hear any boisterous shouts of elation aimed skyward this weekend, that’ll be me.

— Bill Murphy

# NTESS 401(k) plan to remove Lockheed Martin Company Common Stock Fund

Just prior to the contract transition last May, the Lockheed Martin Company (LMC) Common Stock Fund was closed to contributions and transfers. That fund will be removed from the NTESS 401(k) plan at 2 p.m. MDT on Monday, April 30.

Participants who still have balances in the LMC Common Stock Fund can transfer into other investment options in the plan or make in-kind withdrawals, if eligible.

FOR MORE INFORMATION, go to Fidelity NetBenefits (www.401K.com) online or call 1-800-240-4015 (Monday-Friday, 6 a.m.-10 p.m. MDT).


Those who wish to make an in-kind withdrawal of LMC stock must call Fidelity at 800-240-4015 and tell the representative they are inquiring about an in-kind withdrawal from the LMC Common Stock Fund in their 401(k) plan account. The Fidelity representative will explain the withdrawal eligibility requirements. In-kind withdrawals of LMC stock must take place by 2 p.m. MDT on Friday, April 13. Transfers into other investment options, cash withdrawals, or loans from the LMC Common Stock fund must take place by 2 p.m. MDT on April 30.

If participants take no action, balances in the LMC Common Stock Fund will transfer into the NTESS 401(k) plan’s designated default fund, which is one of the Vanguard Target Retirement Trust Funds. The specific fund is based on the participant’s date of birth and assumed retirement at age 65.

—Amy Treece

# TEXT NECK

SAVE YOUR NECK FROM YOUR SMARTPHONE



## WHAT IS TEXT NECK?

This injury is caused by a constant forward head position not in line with your center of gravity, which causes increased stress on the cervical spine or neck.

## HOW DOES IT AFFECT ME?


The average head weighs between 10-13 pounds. When you lean forward, your head feels heavier, causing your spine to work harder to hold your head up. The images below demonstrate how leaning forward shifts your head's weight past your center of gravity, increasing tension on your spine.

12 LBS

22 LBS

42 LBS

62 LBS




### THE AVERAGE PERSON SPENDS

# 2-4 HOURS A DAY


### ON A SMARTPHONE\*

\* THIS DOES NOT INCLUDE THE TIME YOU SPEND HUNCHING OVER A COMPUTER. THAT IS A LOT OF PRESSURE ON YOUR NECK & SHOULDERS.


## WHAT SHOULD I DO?




1. Call Instead of Texting




3. Practice Good Posture




5. Hold Phone at Eye Level




2. Limit Use of Electronics





4. Do Periodic Stretches



6. Schedule an Ergo Assessment

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<http://www.sandia.gov/news/publications/labnews/>



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# ‘Show your rare, show you care’

Sandia’s Disability Awareness Committee (DAC) hosted Rare Disease Day at Hardin Field on Feb. 28 to raise awareness and show support for people with rare diseases. More than 40 Sandians attended the event.

“This was the second time the DAC has hosted Rare Disease Day, and we hope the turnout grows for the years to come,” says event organizer Jason Tarin. “Participants were able to trace their hands on the Rare Disease Day poster and take a lap around Hardin Field to showcase their support.”

Rare diseases affect approximately 1 in 20 people worldwide, and often there are no effective cures. In the US, a rare disease is classified as one that affects fewer than 200,000 people.

“What I find most disappointing is that when people obtain a correct diagnosis of the problem, which is half the battle, 95 percent have no defined treatment regimen or chance of being cured,” says John Myers, senior director of human resources and the executive champion for the DAC. “I feel for them and hope science will advance quickly so we can find cures.”



# Sandia researchers named Fellows of The Combustion Institute

By Michael Padilla

Sandia researchers Robert Barlow and Jacqueline Chen are among 125 members who have been named as inaugural Fellows of The Combustion Institute.



ROBERT BARLOW

As dedicated members of the international combustion community, Fellows are recognized by their peers as distinguished for outstanding contributions to combustion, whether in research or in applications. Fellows are active participants in the institute, as evidenced by the publishing of papers in the institute's affiliated journals, attendance at the International Symposia on Combustion, and attendance at the institute's section meetings.

Robert was recognized "for brilliant developments and applications of optical diagnostics for

scalar measurements in turbulent jet flames, providing insights into turbulence-chemistry interactions."

Jacqueline was recognized "for groundbreaking direct numerical simulations elucidating the fundamental processes in turbulent flames in different modes of combustion."

"I am extremely proud of the accomplishments of Robert and Jackie. Being named as part of the inaugural class of Fellows of The Combustion Institute is a testament to their hard work and commitment to Sandia," says Bob Hwang, director of Sandia's Chemistry, Combustion, and Materials Center. "They represent the best in our outstanding combus-



JACQUELINE CHEN

tion research community." Former Sandia staff members James Miller, Stephen Klippenstein, Robert Kee, Simone Hochgreb, Mitchell Smooke, and Reginald Mitchell; retired Sandia staff member and manager Donald Hardesty; and former Sandia postdoctoral appointees Evatt Hawkes and Fei Qi were also announced as Fellows.

The Combustion Institute is an international, nonprofit, educational, and scientific society. Founded in 1954, the institute promotes and disseminates research activities in all areas of combustion science and technology for the advancement of many diverse communities around the world.



## Dori Ellis participates in 2018 California Labs Day in Sacramento



Div. 8000 Associate Labs Director Dori Ellis recently took part in the 2018 California Labs Day in Sacramento. The event was spearheaded by the California Council on Science and Technology.

The purpose of the event was to educate state leaders on the many contributions that federal labs bring to California. This included economic impact, scientific research, and acting as a trusted resource.

Dori was joined by her colleagues from Lawrence Livermore National Laboratory, Lawrence Berkeley National Laboratory, SLAC National Accelerator Laboratory, NASA Ames Research Center, NASA Jet Propulsion Laboratory, and the National Renewable Energy Laboratory.

Before meeting with Gov. Jerry Brown and Ann Gust Brown, the group met with the both the secretary of the Natural Resources Agency and the California Environmental Protection Agency, discussing ways California can better work with the federal labs and benefit from their capabilities.

**LUNCH WITH THE GOVERNOR** — Representatives from top research laboratories and organizations across the state of California joined Gov. Jerry Brown for lunch last month at the Governor's Mansion in Sacramento as part of California Labs Day at the state capital. Pictured here are, front row from left, Amber Mace, California Council on Science and Technology; Anne Gust Brown; Gov. Jerry Brown; Bill Goldstein, Lawrence Livermore National Laboratory; Chi-Chang Kao, SLAC National Accelerator Laboratory; Dori Ellis, Sandia. In the back row are Charlie Kennel, California Council on Science and Technology; Martin Keller, National Renewable Energy Laboratory; Mike Witherell, Lawrence Berkeley National Laboratory; Michael Watkins, Jet Propulsion Laboratory; Eugene Tu, NASA Ames; and Jim Sweeney, California Council on Science and Technology.

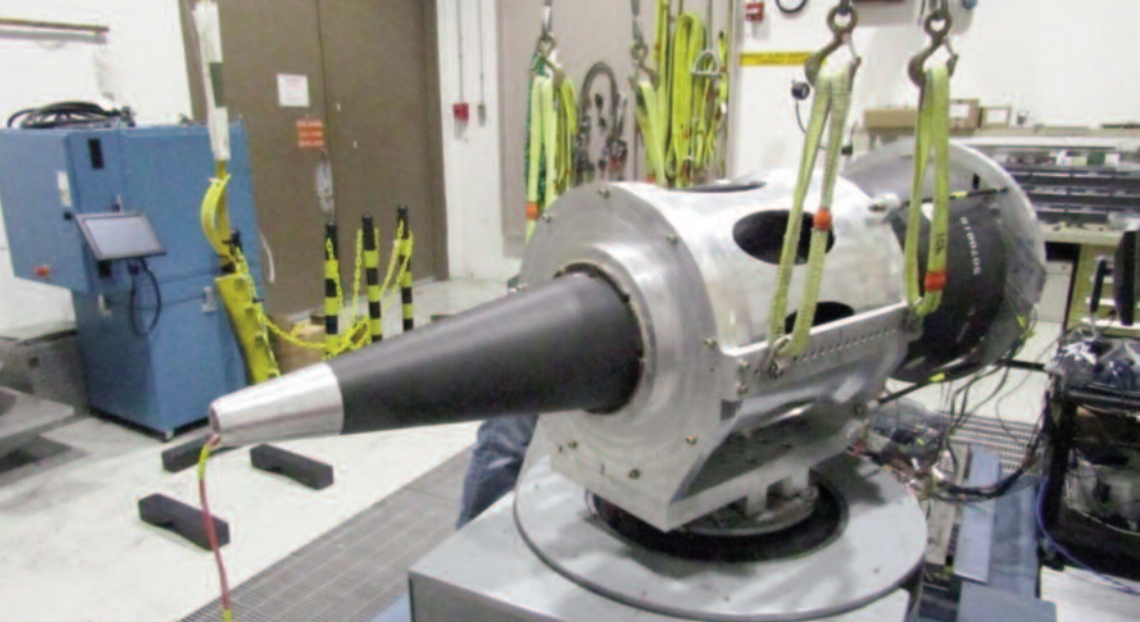
## Mk21 fuze flight test

(Continued from page 1)

California facilities managed by Larry Carrillo. Once the mechanical-testing phase ended, the vehicle was brought to Boeing for extensive electrical testing. These electrical tests, which took place in the integrated test bed with Minuteman III missile system hardware in collaboration with Boeing, Lockheed Martin, Boeing and the U.S. Air Force, were a joint effort among Sandia, Boeing, Lockheed Martin, and the US Air Force. "The results of all these tests indicate that the design is ready for flight," Elaine says, adding that the team is currently building and assembling the flight test vehicle.

### A Herculean cross-site team effort

Elaine says she believes the success of this project can be attributed to the teamwork and dedication of many Sandians, both in California and New Mexico. She explains, "This work is a large, multi-year, multi-million-dollar effort, where everyone has just one piece of the puzzle." The Mk21 Fuze Systems core team appreciates all of the crucial contributions and support from many other organizations across the sites, including Telemetry, Health and Safety Plans, Machine Shop, Test Assembly Group, Environmental Test, Design Definition, Mechan-



**MK21 FUZE GROUND TEST UNIT 1** — In preparation for the first flight test, a ground test vehicle was assembled and environmentally tested at Sandia/California. The vehicle was then sent to Boeing and successfully tested in the integration testbed with Minuteman III missile system hardware in collaboration with Boeing, Lockheed Martin, BAE Systems, and the US Air Force.

ics of Materials, Materials Chemistry, H-Gear, Purchasing, Shipping, Analysis, W87 Systems, Safety, Quality, and the Advanced & Exploratory group. "The extraordinary quality of the teams has allowed us to keep this program on time, while meeting cus-

tomers needs," Elaine says. "With a program so large, setbacks are inevitable. I have been so impressed by the team's resilience, positive attitude, and motivation. They have dealt with setbacks by understanding lessons learned and focusing on moving forward."



# Sandia celebrates Women’s History Month

By Lindsey Kibler

March is Women’s History Month and Sandia’s outreach program, SWAN (Sandia Women’s Action Network), will host its annual Women’s Leadership Panel March 21.

This year’s theme, “Lead From Where You Are” (LFWYA), looks at how best to empower, develop, and set high expectations for every member of the workforce, regardless of their position. The all-woman panel, with participants ranging from Associate Labs Director to staff members, will engage in a candid and lively discussion about their leadership journeys, the ability for anyone to be a leader, and recommendations for transitioning into management.

### ‘You don’t need to have the title of leader to be one’

As senior manager for the program planning and control group and a member of the March 21 panel, Jericah Townsend is responsible for developing and executing the program management improvement plan and stewarding the Corporate Project Management Office, PMO. The PMO is responsible for ensuring Sandia has a holistic project management competency that provides the workforce with the knowledge, skills, and abilities to effectively manage projects.

Jericah has spent 14 years at Sandia working in project controls, project planning, and project management. For the past three years she has served in several management positions, which is why this year’s panel theme is one that resonates with her.

“For me, leading from where you are means to have a vision and then personally execute, or inspire and guide others to execute, that vision,” she says. “It really drives home the idea that you don’t need to have the title of ‘leader’ to be one.”

“Lead From Where You Are” (LFWYA) comes from a cost-effective Sandia-focused leadership program of the same name. It is supported through the Talent Management Steering Committee, and according to program co-lead Donna Kao is facilitated by a team of managers with a passion for staff development and Sandia’s future.

### Fueling connection, abolishing mediocrity and taking ownership

There are, however, several traits Jericah believes are important for leaders to possess, including empathy, authenticity, and accountability.

Jericah says she learned a lot about the importance of empathy from listening to Brene Brown, a qualitative researcher at the University of Houston with a doctorate in social work. In one of her talks, Brown explains how



“For me, leading from where you are means to have a vision and then personally execute, or inspire and guide others to execute, that vision.”

— Jericah Townsend

another person; staying out of judgement; recognizing emotion in other people; and then communicating that.

“I deeply value empathy, and it’s very important for leaders to understand the difference between empathy and sympathy,” says Jericah. “Being able to understand the perspective of others is invaluable when leading and managing people, and working with stakeholders. Focusing first on empathy keeps us from being defensive and allows us to receive feedback from others, which is required of leaders.”

Being an authentic leader is just as important as

empathy fuels connection, while sympathy drives disconnection, and discusses the four qualities of empathy — the ability to take the perspective of

allowing others to be, Jericah says. When she was growing up, Jericah says she most looked up to her parents, the leaders of her family. She remembers her parents as “always positive and authentic,” which are skills she learned to apply to every aspect of her life.

“I am often heard telling others ‘I’d rather be the best version of myself than a mediocre version of you,’ and I want everyone around me to feel the same way. They shouldn’t feel as though they must replicate the behaviors of others around them at the expensive of being the best version of themselves.”

For Jericah, accountability is two-fold. It’s committing to support outcomes and following through with promised deliverables, but also being able to own mistakes.

“If something goes wrong, admit your mistake,” she says. “Don’t blame others for your shortcomings.”

Perhaps the most important thing Jericah encourages potential leaders to do is first assess why they want to pursue a formal leadership role and, second, ensure the role matches up with their passions.

“When you are passionate about what you do, you work hard and enable the success of others.”

LEAD FROM WHERE YOU ARE

women's history month

4<sup>TH</sup> ANNUAL

SWAN Women's Leadership Panel

march 21<sup>st</sup>

LOCATION: 858EL/L2000

Panel9:00 - 10:00 AM

Networking10:00 - 10:30 AM

VTC to Sandia CA:940/1103

Susan SEESTROM

Dori ELLIS

Renee HOLLAND

Jericah TOWNSEND

Tina HERNANDEZ

Rosalie MULTARI

Live Video:<https://digitalmedia.sandia.gov/MediaSite/Play/691c3c7e523e7446e8eb78043ac04d3bc1d>

U.S. DEPARTMENT OF ENERGY

NISA

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SWAN

Leadership • Empowerment • Mentorship • Collaboration

Sandians, from left, Zach Tenorio, Gilbert Quintana, and Martin Baca collect wastewater samples in the field. The three are members of a Sandia/DOE team honored by the Albuquerque Bernalillo County Water Utility Authority Industrial Pretreatment Program for exceptional wastewater permit compliance.

By Valerie McKinney

The county water authority recently recognized Sandia for maintaining an exceptional level of wastewater permit compliance.

The Albuquerque Bernalillo County Water Utility Authority (ABCWUA) Industrial Pretreatment Program presented DOE and Sandia and its Wastewater Program with Gold Pretreatment Awards for the 2016-2017 pretreatment year for each of its six Wastewater Discharge Permits, one award for each of the Labs’ stations/basins.

Gold awards are bestowed annually to permit holders for demonstrating 100 percent compliance with their permit requirements for both reporting and permit discharge limits, as well as zero Notices of Violation.

Wastewater is defined as discarded, non-potable water such as sanitary sewer effluent from the elimination of human waste, laboratory process waters, personal wash water from showers and sinks, or effluent from industrial operations.

“Every year — or day for that matter — we strive to ensure compliance with our regulations and our team works hard to meet those requirements,” says Andrew Gough, team lead. “From the hands-on field work to the individual lab assessments and communications with the line, all facets of our program complement each other.”

Characterization of the wastewater stream starts with line input with internal waste water discharge permits. This step enables the wastewater team to plan and assist a line organization to ensure regulatory compliance. This means, says manager Darrell Fong, that the award really is for the entire lab.

Sandia produces 750K gallons of wastewater a day, and the flow is continuously monitored electronically, 24/7, 365 days a year. Field technologists respond immediately should pH limits drift out of the range of the ideal acidity and alkalinity for water, which falls between 5.5 and 11.5. Wastewater samples are collected semiannually to ensure Sandia is within the ABCWUA permitted maximum daily composite limits.

Sandia’s Environmental Compliance and Monitoring organization, of which the Wastewater Program is a part, is responsible for collecting environmental samples and assessing the potential environmental impacts of Sandia operations. The team partners with and assists line organizations to improve understanding of the impacts of work activities, ensuring mission work can continue without delays.

Wastewater that contains such pollutants as heavy metals or other toxic substances in excess of regulatory limits is prohibited by federal law and the ABCWUA ensures compliance.

“Maintaining regulatory requirements throughout the site is our imperative,” says Darrell.





# Full STEAM ahead

*Students learn about Sandia's global security work during state STEAM event*

**By Lindsey Kibler • Photos by Randy Montoya**

Sandia hosted nearly 50 northern New Mexico middle school students last month for a day of interactive science, technology, engineering, and math activities that focused on the Labs' global security work.



The event was part of the New Mexico Mathematics, Engineering, Science, Achievement Inc. (NM MESA) STEAM Extravaganza. NM MESA selected middle and high school students from across the state and invited them to Albuquerque to participate in immersive experiences in science, technology, engineering, art, and mathematics, or STEAM, according to the organization.

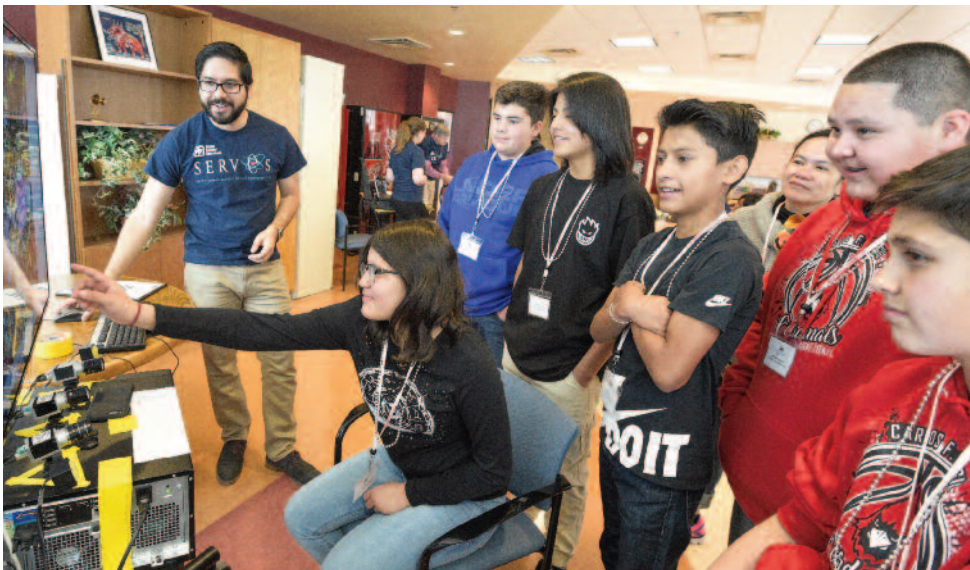
"We're excited to open our doors to these students. We want them to see the wide range of opportunities available to them when they study and work in STEM and to benefit from the

expertise we have right here in our state," says community relations specialist Katrina Wagner. Sandia was one of 15 organizations that partnered with NM MESA for this event.

Students from Mesa Alta Junior High in Bloomfield and Española's Carlos Vigil Middle School learned about Sandia's national security mission during a tour of the Training and Technology Demonstration area at Sandia's Center for Global Security and Cooperation. The area showcases technologies that can be cooperatively applied to a range of monitoring applications across the globe in areas such as nonproliferation, combating terrorism, and arms control.

Groups then rotated through four stations that featured a wide range of Sandia's research and development work, including chemistry, cognitive science, and eye tracking, delay technologies designed to provide physical security of facilities, environmental protection, and other Sandia work.

The Sandia researchers explained to the students the scientific concepts on display and discussed their own career paths.



## Read to Me!

**Sandia Associate Labs Director Mark Sellers visits local school to celebrate reading**

Mark Sellers, Associate Labs Director for Mission Assurance Div. 9000, enjoys reading his favorite children's book, *Miss Twiggley's Tree*, to local elementary students in celebration of Read Across America, an annual reading motivation and awareness program that calls for every child in every community to celebrate reading on March 2, the birthday of beloved children's author Dr. Seuss. The program, sponsored by the National Education Association, was launched in 1998. It is the largest celebration of reading in the US. According to the Read Across America website, "Motivating children to read is an important factor in student achievement and creating lifelong successful readers. Research has shown that children who are motivated and spend more time reading do better in school."



# Mileposts



*New Mexico photos by Michelle Fleming*



Tom Brewer 35



Frank Lesperance 35



Steven Arroyo 40



Bruce Draper 40



Bruce Malm 35



John Wagner 35



Frank Villareal 30



Mary Lou Garcia 25



Cheryl Huppertz 25



Sylvia Cardoza 20



Gregory Frye-Mason 20



Susan Gardner 20



David Harmony 20



Chrisma Jackson 20



Hai Le 20



Jacky Martinez 20



Cindi Maxwell 20



Debra Menke 20



David Raymond 20



Thomas Smith 20



Elton Wright 20



Alex Bates 15



Stephanie Estrada 15



David Haygood 15



Jennifer Tapia 15

# Recent Retirees




*New Mexico photos by Michelle Fleming*



John Rowe 40



Teresa Jordan-Culler 37



Richard Farwell 36



Richard Lucero 34



Garth Reese 31



Kevin Ewsuk 27 Jill Glass 27



Nick Winowich 27



Calvin King 21



Ana Barraza 20



# TEXT NECK

SAVE YOUR NECK FROM YOUR SMARTPHONE



## WHAT IS TEXT NECK?

This injury is caused by a constant forward head position not in line with your center of gravity, which causes increased stress on the cervical spine or neck.

Learn more at [livesafe.sandia.gov](https://livesafe.sandia.gov)





# SANDIA CLASSIFIED ADS

## MISCELLANEOUS

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NEST THERMOSTATS, Gen 2, stainless steel, latest FW, \$150 ea. or 2/\$250. Carrington, 505-263-0284.

LOFT BED, twin, built-in stairs, dresser drawers, bookshelf, like new, photos available, \$700 OBO. Garrett, 832-439-5638.

JOINTER, 6-in. Delta Deluxe 37-190, w/stand & mobility base, lightly used, you pick up, \$250. Bryan, 281-7542.

ELECTRONIC ADJUSTABLE BED/FRAME, queen, w/firm, water-proof mattress cover, 2 yrs. old, excellent condition, \$1,000 OBO. Seligman, 505-228-5567.

STATIONARY BIKE, vintage Schwinn, great condition, \$125; full-size mattress, w/metal box spring & zippered cover, gently used, \$140. Stokes, 505-269-4240.

YOGA BALL, Gold's Gym, w/pump, \$8; 20-lb. kettlebell, \$25. McDonald, 907-830-4938.

TRAMPOLINE FRAME & SPRINGS, 15-ft., mat not included, can be purchased online, details available, \$25 OBO. Haltli, 514-9834.

MOTORCYCLE JACKET(S), Joe Rocket, yellow, large & small sizes, excellent condition, \$75 ea. Willmas, 505-281-9124.

STATIONARY EXERCISE BIKE, Schwinn Airdyne AD4, black, excellent condition, \$200 OBO. Kolb, 505-553-5550.

SAUNA, infrared, 2-person, Heavenly Heat, all wood w/screws, no glue, paid \$3,500, asking \$1,200. Amador, 505-259-8919.

VINTAGE MARK V SHOPSMITH, 1960s, w/attachments, scroll saw, lathe, drill press, disk sander, \$450. Swalin, 505-506-6412.

PROJECTOR, Epson 822p, 92-in. screen, \$350 OBO. Morgan, 505-918-7820.

CAR SEAT, Safety 1st Continuum, 3-in-1, manufacture date Aug. 2016, used once for grandson visit, \$50. Graham, 271-1337.

CYCLING SHOES, men's size 8-1/2, Shimano sandals, ordered by mistake, new, unused, cost \$119, asking \$60. Drebing, 293-3335.

STAR TREK MONOPOLY GAME, mint condition, \$35. Stubblefield, 263-3468.

CORK PURSE, from Portugal, latest fashion, 12"W x 14", Corx Bags, model Beja-Hawaii, brand new, \$95. Wagner, 505-504-8783.

PATIO SET, glass-top table w/umbrella hole, 6 matching chairs, excellent condition, photos available, \$150. Drotning, 821-9598.

## TRANSPORTATION

'11 JEEP WRANGLER SAHARA, 4WD, 2-dr., 4x4, 3.8L V6 engine, call for details. Ramos, 505-220-5201.

'13 TOYOTA HIGHLANDER LIMITED, AWD, leather, maroon, warranty transfers, 78K miles, \$21,400 OBO. Sahlstrom, 505-923-0135.

'08 BMW X5 3.0si, AWD, champagne exterior, brown leather, 22/26-mpg hwy., 79K miles, 2nd owner, no accidents, below book, \$10,000. Dwyer, 505-249-6935.

'96 CHEVY TRUCK, 3/4-ton, great condition, \$2,500. Garcia, 292-5398.

'15 BMW 328i, low miles, 26K, dealer serviced, excellent condition, \$23,500 OBO. Kraft, 505-238-7343.

'14 KIA OPTIMA HYBRID EX, loaded, white, 17-in. wheels, tint, under warranty, 43K miles, \$14,900. Herring, 206-369-5230, ask for Sean.

'04 HONDA CIVIC, 5-spd., new brakes & timing belt, 26-mpg, 150K miles, \$4,000. Marrujo, 505-382-4283.

## How to submit classified ads

**DEADLINE:** Friday noon before week of publication unless changed by holiday.

**Submit by one of these methods:**

- EMAIL: Michelle Fleming (classads@sandia.gov)
- FAX: 844-0645
- MAIL: MS 1468 (Dept. 3651)
- INTERNAL WEB: From Techweb search for 'NewsCenter', at the bottom of that page choose to submit an ad under, 'Submit an article'. If you have questions, call Michelle at 844-4902. Because of space constraints, ads will be printed on a first-come basis.

## Ad rules

1. Limit 18 words, including last name and home phone (If you include a web or e-mail address, it will count as two or three words, depending on length of the address.)
2. Include organization and full name with the ad submission.
3. Submit ad in writing. No phone-ins.
4. Type or print ad legibly; use accepted abbreviations.
5. One ad per issue.
6. We will not run the same ad more than twice.
7. No "for rent" ads except for employees on temporary assignment.
8. No commercial ads.
9. For active Sandia members of the workforce, retired Sandians, and DOE employees.
10. Housing listed for sale is available without regard to race, creed, color, or national origin.
11. Work Wanted ads limited to student-aged children of employees.
12. We reserve the right not to publish any ad that may be considered offensive or in bad taste.

'03 HONDA ACCORD LX, 4-dr., blue, grey interior, 126K miles, good condition, \$4,000 OBO. Mills, 217-621-2492.

'07 BMW 530i, silver, grey leather, 92K miles, excellent condition, 2nd owner, no accidents, \$7,500. Guerrero, 505-379-4939.

'14 CHEVY IMPALA LS SEDAN, light blue, 11,556 miles, like new, \$17,000. Duvall, 881-4406.

'08 PONTIAC GRAND PRIX, V6, 125K miles, great condition, \$3,950. Oselio, 505-980-2179.

'06 TOYOTA AVALON XLS, loaded, excellent interior, 78K miles, 2nd owner, runs great, \$8,800 OBO. Nistler, 406-461-9790, ask for James.

'01 CHEVROLET SILVERADO 2500 HD, crew cab, tow pkg., original owner, original 105K miles, new tires, \$8,800. Bentley, 505-331-5788.

'97 SUBARU OUTBACK, 5-spd. manual, fresh tires, interior fair, engine good, no leaks, 189K miles, \$2,000. Wolfgang, 505-414-1483.

## RECREATION

'99 BMW K1200 LTE ABS, garage-kept, 38K miles, steel brake lines, needs battery, \$2,700. London, 505-720-6979.

'93 REINELL SPEEDBOAT, 5.7 V8 OMC Cobra I/O, good condition, motor works great, \$4,500 OBO. Manzanares, 991-0548, ask for Trevor.

'98 KAWASAKI KLX300 TRAIL BIKE, Scotts equipped, 1.3K miles, garaged, like new, \$4,500. Miller, 281-3655.

'12 FOREST RIVER FLAGSTAFF CLASSIC PO, A-frame, easy set-up, great condition, sleeps 4, \$6,900. Ortega, 505-321-2402, ask for Louis.

STARCRAFT TRUCK POP-UP CAMPER, heater, refrigerator, gas or electric, AC, gas cook top, fits 7-ft. truck bed, \$4,000. Hibray, 821-3455.

BIKE, ElliptiGO Arc 8, brand new, rode once around block, photos available, paid \$1,200, asking \$800. Pacheco, 505-816-8501, send text.

## REAL ESTATE

5-BDR. HOME, Far NE Heights, details at <https://tinyurl.com/y7awouuz>. \$639,000. Smith, 505-850-4129.

4-BDR. HOME, 2 baths, 1,722-sq. ft., 2-car garage, appliances included, 3001 Datum Street SW, \$176,500. Murrieta, 520-249-6176.

2-ACRE BUILDING LOT, Sandia Park, gorgeous level land, borders open space, all utilities, \$125,000, easy terms. Mihalik, 507-1306.

FOR RENT, 3-bdr. home, 2 baths, 2,050-sq. ft., hot tub, 1 acre, views, Placitas, on assignment for Sandia, \$2,400/mo. DiMambro, 505-514-3106.

3-4 BDR. TOWNHOME, 2-1/2 baths, 2-car garage, 2,666-sq. ft., accessible to park, bike paths, shopping & Sandia, MLS#912865. Wells, 505-292-0179.

## WANTED

ROOMMATE, 2-bdr. home, 1 bath, Nob Hill, other tenants are law student & Sandian in 30s, \$600/mo. Dougan, 518-932-2165.

UPRIGHT PIANO. Ilgen, 970-314-1321, ask for Anastasia, anastasia.ilgen@gmail.com.

MUSICIANS, for community concert band, need flute, clarinet, percussion most, rehearse Tues. evenings. Bliss, 259-0131, ask for John.

PLAY HOUSE, for grandchildren age 7 & younger, wood or plastic, Costco brand or similar. Rockwell, 505-250-3737.

BELGIAN WAFFLE MAKER, Waring Pro, in good working condition. Siegrist, 293-4148.

## Black engineering awards

(Continued from page 8)

engineering. He now makes it his mission to encourage and support students interested in exploring STEM.

"On the national level, the number of students going into STEM is decreasing," Christopher says. "Getting a good education and pursuing a career in STEM is great for the nation. My advice to students is don't get discouraged if some classes are challenging. Focus on the bigger picture of pursuing your dreams. Stay focused, encourage yourself, and remain positive. Keep telling yourself that you will succeed."

Chris is also involved in community outreach, volunteering for the HMTech program, Habitat for Humanity, Upward Basketball, the Global Leadership Summit — a worldwide event that teaches and encourages inspirational leadership and skills development — and playing the saxophone in the band at church.

## Imani Adams

Imani, who has worked at Sandia for six years, supports the Power Source Technology group, where she is responsible for verifying and asserting the verification and validation design evidence for requirements provided to her customers. She is also responsible for understanding and working through the 6.X Stage Qualification Process for product realization. Imani is also a course instructor and developer for National Security Quality Training 800: Preventing Supplier Quality Problems. In her roles on various teams Imani has received numerous Employee Recognition Awards. Imani was also a recipient of the NNSA Defense Programs Award of Excellence for her support on the Strategic Planning and Execution Team for the Kansas City Responsive Infrastructure, Manufacturing, and Sourcing (KCRIMS) requalification efforts.

In addition to her technical work, Imani is extensively engaged in outreach and recruiting efforts focused on sharing her passion for science, technology, engineering, and math with women and minority students.

"There's room in the STEM field for everyone, and I'm glad I can be a representative for both women and minorities," Imani says. "When you don't see yourself represented, it's hard to see STEM as something you can do."

Imani serves as a campus recruiter, conducting classroom visits and mock interview workshops. She has mentored and coached more than 30 high school and middle school stu-



IMANI ADAMS

dents and arranged multiple STEM and professional development workshops, college tours, and has coached multiple competitions through her work for the National Society of Black Engineers. She is an instructor and coordinator for Sandia's HMTech summer outreach program, where she manages the logistics of coordinating 18 different STEM-focused interactive classes for middle and high school students. She also participates in other outreach programs through Sandia, including serving on the coordinating committees for STEM recognition days that expose students and their parents to different focus areas. While she has served in this area, more than 150 children and their parents have attended various programs.

"Imani has demonstrated an exceptional desire to pass on her passion for science, technology, engineering, and math to the generation that follows her," Dennis Owens, a product acceptance and supplier quality manager, says. "Her relentless and tireless efforts to reach our future scientists and engineers is a testimony to a promising legacy in action."

Imani's interest in math and science grew in middle school when she joined an engineering organization that introduced her to different engineers and research opportunities. She says that the representation within the field and the opportunity to talk with those individuals spurred her to take even more math and science classes and learn more about engineering as a career.

"When I talk with students, I tell them not to think that they aren't good at math or they aren't good at science," Imani says. "If you are interested in math or science, you'll find a field that fits you. Things you are passionate about, even if they are hard, are things you can work through and learn from the obstacles. It can become one of your biggest strengths. Never limit yourself because of your perceived abilities."

Imani serves on the United Way Young Leaders Society board, and is actively involved with her church, where she is president of the usher board and a member of the building committee. She and her sister Shauna, who also received a BEYA award, established the "It's All About ME!!" Mechanical Engineering Endowed Scholarship for undergraduate students at North Carolina Agriculture & Technical State University, their alma mater.

## Shauna Adams

Shauna has worked at Sandia for six years in surety engineering, providing quality assurance and engineering support to nuclear weapon component and subsystem teams. She has successfully completed design, verification, and production requirements for two weapon system design reviews. She also trains scientists and engineers on advanced technical methods for product qualification, training more than 120 Sandia employees and 210 DOE employees at various sites. She has won awards for her contributions in delivering on-time flight test hardware and for her contributions in additive manufacturing qualifications.

"The teams that she works on all rave about her engineering performance," Peter Gelb, a Sandia manager, says. "She

works on very high consequence subsystems that are critical to our national security, and her colleagues all lobby me for more of her time. She is a great example for new engineers and a mentor."

In addition to her technical contributions, Shauna is passionate about outreach, giving back, and inspiring the next generation of minority students to consider STEM education and career paths, as well as encouraging others in STEM fields to help build the pipeline.

"I encourage others to be available to reach out to people," Shauna says. "You may be the only example someone sees of a certain career. Don't be afraid to tell people about what you do, including the challenges and opportunities. You may help interest more students in STEM."

Shauna is a volunteer, coordinator, and instructor for Sandia's HMTech Summer Program, working to expose minorities in middle school and high school to STEM-related activities and courses. She serves as an advisor, coach, mentor, and tutor to the Greater Albuquerque NSBE Jr. chapter, coaching the group's regionally and nationally award-winning Try-Math-A-Lon, Vex Robotics, First Lego League Robotics, and Mathcounts teams. She serves on the United Way Young Leaders Society board, and is actively involved in her church in both ushering and the building committee. She also recruits for Sandia from North Carolina A&T State University, where she conducts career discussions and visits classrooms.

"She is very thoughtful in her planning to ensure that the curriculum for each program is relevant and provides hands-on activities that showcase the contributions that engineering can have on today's society," Theresa Carson, senior manager of supply chain integration and the former co-chair of Sandia's Black Leadership Council, says. "She brings an excitement and passion that inspires learning and participation, and she is very dedicated to giving back to her community."

Shauna says she knew she was interested in math and science early on and sought out math and science clubs and activities at school, including participating in NASA Langley's summer high school Apprentice Research Program and the Langley Aerospace Research Summer Scholars Project. Now as a mentor and role model, she strives to pass on her passion to students by sharing that practical side of engineering.

"I was drawn to engineering because of the endless opportunities you have within the field," Shauna says. "Everything you see has in some way been influenced by an engineer. The ability to use math and science in an applicable manner is what I really like about engineering."



SHAUNA ADAMS



# Black engineering awards conference honors 5 Sandians

**Five Sandia employees** are recipients of 2018 Black Engineer of the Year awards:

- David Samuel received an Outstanding Technical Contribution award
- Mark Martin, Imani Adams, and Shauna Adams received Modern-Day Technology Leader awards
- Christopher Collins received an Outstanding Achievement as a Science Spectrum Trailblazer award

\* \* \*

BEYA is a program of the national Career Communications Group, an advocate for corporate diversity, and part of its Science, Technology, Engineering and Math (STEM) achievement program. The awards recognize the nation’s best and brightest engineers, scientists, and technology experts. The five honorees received their awards at the 2018 BEYA STEM conference in Washington, D.C., in February.

By Kristen Meub  
Photos by Nicholas Kerekes

### David Samuel

David has worked at Sandia for 41 years, and for the past 20 he served in a critical role as Tech Area 5’s sole mechanical designer, responsible for CAD design, product definition, and fabrication for test fixtures and handling equipment for research and development experiments at the Labs.

“As a trusted expert, David displays innovation and creativity in his unique designs,” Richard Graham, a Sandia manager, says. “He works closely with his team to thoroughly understand the product form, fit, and function requirements while including safety, security, and quality in his designs.”

David is passionate about his work and has a philosophy that drives him to excel: “Good parts make good test results possible, and good test results lead to good data,” he says. “From good data, you can make good, informed decisions.”

David says one of his most interesting projects was developing a shutter array for holding cobalt-60 sources in a circular arrangement for radiation testing. His array lets the user adjust the intensity of the radiation field around the pins by expanding or shrinking the diameter of the array. This design improves the fidelity of experiments, gives researches more options, and extends the useful life of the cobalt-60 pins.



DAVID SAMUEL



## About BEYA

Each year, the BEYA STEM Conference brings professionals and students from a wide variety of STEM-related fields together for three days to share their experiences and information. You'll see attendees from around the country network while participating in seminars and workshops exploring every facet of STEM career paths.

The goal of the BEYA Conference is to create connections between students, educators and STEM professionals while facilitating partnerships with individuals and their local STEM resources.



BLACK ENGINEER OF THE YEAR AWARDS 2018 RECIPIENTS, from left, Imani Adams, Christopher Collins, David Samuel, Mark Martin, and Shauna Adams.

“The shutter array is a unique custom-designed device, and it is all the brainchild of Dave,” says Maryla Olszewska-Wasiolek. “He did not have much to go by when he started developing the conceptual model, because there is no other device like that anywhere. He not only developed the concept of the array through multiple design iterations, brainstorming sessions, and incremental improvements, but he also oversaw the design implementation, all the way through fabrication and deployment. This complex and challenging project is a testament to Dave’s professional skills and creativity.”

David has made a habit of helping others during his career, both at Sandia and in the community.

“David has been a mentor and project lead to new employees and several intern students,” Graham says. “He takes the time to explain the fundamentals of design, gathering requirements, and the art of creating a drawing.”

As part of his community outreach, David was the lead instructor for computer literacy classes through Sandia’s Hands on Minds on Technology program (now known as HMTech), a class that has students disassemble a computer, learn about each part, and then reassemble it and ensure it works correctly.

“I also taught them basic programming, and they would write a program that their parents could interact with during an open-house celebration,” David says. “Teaching was really fun, and some of the kids have gone on to work in the computer industry, which is a plus.”

He served as a judge for a student Electric Car Challenge, volunteers with Habitat for Humanity, and is an active member of Albuquerque’s SolidWorks users group. His work has been honored through numerous Sandia Employee Recognition Awards and NNSA Awards of Excellence.

### Mark Martin

Mark’s 28-year career at Sandia has focused on reliability engineering, component design, development and testing, classification, nuclear material control, and management.

“As he climbed the ranks from an undergraduate student to a manager, Mark has proven time and again that he is an innovator and leader,” Sally Uebelacker, senior manager of safeguards and security, says.

As a system and component reliability engineer, Mark assessed the performance for multiple nonnuclear components in the nuclear weapon stockpile, including strong-link switches and neutron generators. He worked to develop sampling plans to evaluate the performance of weapon components that are still being used today. He earned the Aspire to Excellence Award from DOE for his support in assessing component reliability.

Mark participated in Sandia’s Weapon Intern Program in 2000 and then became a product realization team lead for Sandia’s neutron generator monitoring work. Among the career accomplishments he is most proud of, Mark cites his work to develop a new modernized neutron generator monitor for the W87 Joint Test Assembly Weapon Program being qualified on the Minuteman missile.

“I had to redesign a monitor with unique challenges, and in doing that process, we found there were issues with the output of the neutron generator that were affecting our measurements,” Mark says. “We had to figure out how to reduce the noise so we could get accurate measurements. It was a unique challenge that we accepted and overcame.”

Meeting these challenges led to multiple awards such as



MARK MARTIN

Sandia’s President Quality Awards in 2005 and 2006 and NNSA Defense Programs Award of Excellence for significant contributions to the Stockpile Stewardship program.

Mark joined the classification office where he became the manager and also served as the transmissibility reviewing officer for the Direct Release Program at Sandia, a role that supports the Mutual Defense Agreement between the United States and the United Kingdom. Inspection of Sandia’s Direct Release in 2015 found that Sandia has an exceptional training program that was managed by Mark.

In addition to his work, Mark recruits for Sandia by visiting universities, doing tech talks, and talking with students about career decisions, how to create a résumé, and how to interview for a job. Mark enjoys worshipping at the church his family attends, going to movies, and vacationing with his wife, Peggy.

### Christopher Collins

During Christopher’s 15 years at Sandia, he has contributed technically and led projects in support of national security. He has performed award-winning research on projects related to satellite communications, tagging, tracking, and locating, and nuclear weapons flight testing and production capabilities. Chris is also a graduate of the Weapon Intern Program.

“I enjoy being able to work on cutting-edge projects with great people,” Christopher says. “I like being part of Sandia’s mission and contributing to that mission. The work has a sense of accomplishment to it — it’s fulfilling work.”

In addition to his technical contributions, Christopher is heavily involved in recruiting and mentorship activities, especially in support of minorities seeking science, technology, engineering, and math (STEM) careers.

“Chris has distinguished himself as a technical contributor, a leader, a mentor, and an active supporter of the Laboratories’ recruiting efforts,” Daniel Briand, a systems analysis and decision support senior manager, says. “He has repeatedly demonstrated his commitment to Sandia’s mission, is dedicated to addressing the most thorny of national security challenges, and is passionate in his support of minorities seeking science and technology careers.”

Christopher is the recruiting chair for Sandia’s Black Leadership Committee and has presented at several universities focused on the nation’s need for students to pursue STEM careers.

“Chris built a pipeline between historically black colleges and universities and the student intern program at Sandia, and through that effort, initiated recurring interactions with executive leadership to foster continued support,” Kent Meeks, director of strategic plans and policies at Sandia, says. “The number of African-American students hired by Sandia has significantly increased due entirely to Chris’ dedication and tenacity.”

Christopher says he became interested in engineering in high school, attending classes in the morning and working at the Applied Research Laboratory at the University of Texas (Austin) in the afternoon. He worked on modeling and simulation software to analyze radio frequency communication links and predict electromagnetic propagation in the atmosphere. He says that time and mentorship with engineers and scientists encouraged him to pursue a degree and career in



CHRISTOPHER COLLINS

(Continued on page 7)